



PATENT  
12480-000175/US

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 10/574,470  
Filing Date: March 31, 2006  
Applicant: Masaru TAKAGI et al.  
Group Art Unit: 1638  
Examiner: Unassigned  
Title: Producing Process of Sterile Plants, Plants Obtained by  
the Process, and Use of the Plants  
Attorney Docket: 12480-000175/US

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**PETITION UNDER 37 C.F.R. § 1.181 TO WITHDRAW HOLDING OF ABANDONMENT**

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314  
**MAIL STOP PETITION**

June 30, 2009

Dear Sir:

In response to the Notice of Abandonment mailed May 14, 2009 in connection with the subject application, Applicants hereby respectfully petition under the provisions of 37 C.F.R. 1.181 and M.P.E.P. §711.03(c) for decision to withdraw the holding of abandonment.

The Notice of Abandonment dated May 14, 2009 asserts that Applicants failed to properly or timely respond to a July 6, 2006 Notice of Missing Requirements. However, a review of the file for the present application confirms that the July 6, 2006 Notice of Missing Requirements was fully, properly, and timely responded to by the offices of the undersigned.

More specifically, on March 10, 2006 this application was filed as a PCT application in the US Receiving Office, with a paper Sequence Listing and a Computer Readable Form (CRF) of the Sequence Listing. On July 7, 2006 the U.S. Patent & Trademark Office (herein "PTO") mailed a Notice of Missing Requirements asserting that the CRF was defective and providing a set of specific errors in a marked-up Raw Sequence Listing. A copy of the July 7, 2006 Notice of Missing Requirements and marked-up Raw Sequence Listing are attached hereto together as **Exhibit A**.

On August 29, 2006, Applicants, through the offices of the undersigned, filed with the PTO a Response to Notice of Missing Requirements together with a revised Sequence Listing in paper and CRF forms. The errors identified in the July 7, 2006 marked-up Raw Sequence Listing were corrected at this time. Copies of the August 29, 2006 Response to Notice of Missing Requirements together with the paper copy of the revised Sequence Listing and the postcard confirming receipt of the foregoing by the PTO are attached hereto as **Exhibit B**.

About one year later, on July 30, 2007, the PTO mailed a Notification of Defective Response asserting that the August 29, 2006 CRF was defective. However, that Notification includes the same specific errors that were identified in the July 2006 marked-up Raw Sequence Listing. In fact, it is a photocopy of the marked-up Raw Sequence Listing from the July 7, 2006 communication. Because those errors had been corrected by the August 29, 2006 Sequence Listing (see **Exhibit B**), this communication from the PTO was factually inaccurate and, we submit, defective.

In late August 2007, our offices had an e-mail exchange with the PTO regarding the Sequence Listing issue. The Patent Office located the CRF of the August 29, 2006 Sequence Listing in the artifact file, checked it and found a single error in it. However, that error was different than the errors that were raised in the July 7, 2006 Notice of Missing Requirements or the July 30, 2007 Notification of Defective Response. A copy of the e-mail received from the PTO is attached hereto as **Exhibit C**.

That the error identified in the CRF located in the PTO's artifact file in August 2007 was not one of those identified in the July 7, 2006 Notice of Missing Requirements (or the July 30, 2007 Notification of Defective Response) establishes

that the PTO did, in fact, receive the corrected Sequence Listing back in August 2006. If the PTO had not received the corrected Sequence Listing, then the errors that were identified in July 7, 2006 Notice of Missing Requirements would have been identified again. Instead, those errors had been corrected by Applicants and the Sequence Listing that was located and reviewed by the PTO in August 2007 was, in fact, the corrected version. For at least this reason, the May 14, 2009 Notice of Abandonment based on alleged failure to properly or timely respond to the July 6, 2006 Notice of Missing Requirements is factually incorrect, improper and should be withdrawn.

In addition, despite the identification of a new error in August 2007, no Notice of Defective Sequence Listing was issued by the PTO. The newly identified error was minor - in an information box for just one of the 164 sequences in the Sequence Listing an amino acid sequence was inadvertently referred to as a DNA sequence. Because this error had not previously been identified in any communication from the Patent Office, a new Notice of Defective Sequence Listing should have issued at this time if correction was deemed necessary.

Despite the absence of a new Notice of Defective Sequence Listing, and the absence of any obligation to respond to any office action, Applicants electronically submitted a new CRF for the Sequence Listing correcting the single newly-found error. A copy of a printout from PAIR showing the September 4, 2007 electronic submission is attached hereto as **Exhibit D**. In addition, the undersigned downloaded what was identified as "version 2" of the Sequence Listing in this application from PAIR and found that it contained correction of both (1) the originally identified errors (from the July 7, 2006 Notice of Missing Requirements) and (2) the error that was newly-identified in August 2007. A copy of that downloaded Sequence Listing is attached hereto as **Exhibit E**.

In view of the foregoing, it is readily apparent that the abandonment of the present application was due solely to error by the PTO. Accordingly, this petition is being timely filed for the purpose of petitioning withdrawal of the abandonment in view of the above-stated facts.

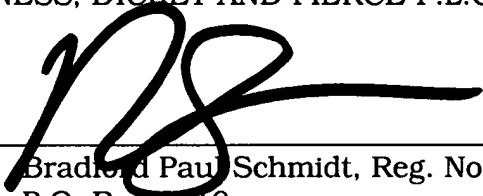
It is further believed that pursuant to M.P.E.P. §711.03(c), no petition fee is necessary in connection with this petition.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

In the event that any matters remain at issue in the application, the Examiner is invited to contact the undersigned at (703) 668-8000 in the Northern Virginia area, for the purpose of a telephonic interview.

Respectfully submitted,

HARNESS, DICKEY AND PIERCE P.L.C.

By   
Bradford Paul Schmidt, Reg. No. 42,128  
P.O. Box 8910  
Reston, VA 20195

BPS/dab

Attachments:      Exhibit A  
                         Exhibit B  
                         Exhibit C  
                         Exhibit D  
                         Exhibit E

DJD



## UNITED STATES PATENT AND TRADEMARK OFFICE

12480-000175/US

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/574,470	Masaru Takagi	12480000175US

INTERNATIONAL APPLICATION NO.

PCT/JP05/00155

I.A. FILING DATE	PRIORITY DATE
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01/07/2005

01/07/2004

30593

HARNES, DICKEY &amp; PIERCE, P.L.C.

P.O. BOX 8910

RESTON, VA 20195

*Prev. Docketed*  
*Miss Routs*  
*8/29/06*

JUL 06

CONFIRMATION NO. 3750

371 FORMALITIES LETTER



\*OC000000019439069\*

Date Mailed: 07/05/2006

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Copy of the International Application filed on 03/31/2006
- English Translation of the IA filed on 03/31/2006
- Copy of the International Search Report filed on 03/31/2006
- Copy of IPE Report filed on 03/31/2006
- Preliminary Amendments filed on 03/31/2006
- Information Disclosure Statements filed on 03/31/2006
- Biochemical Sequence Diskette filed on 03/31/2006
- Biochemical Sequence Listing filed on 03/31/2006
- Request for Immediate Examination filed on 03/31/2006
- U.S. Basic National Fees filed on 03/31/2006
- Priority Documents filed on 03/31/2006
- Specification filed on 03/31/2006
- Claims filed on 03/31/2006
- Abstracts filed on 03/31/2006
- Drawings filed on 03/31/2006

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a

substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- For Rules Interpretation, call (571) 272-0951
- For Patent Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patent Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

LAMONT M HUNTER

Telephone: (703) 308-9140 EXT 201

**PART 1 - ATTORNEY/APPLICANT COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/574,470	PCT/JP05/00155	12480000175US

## STIC Biotechnology Systems Branch

### RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

10/574,470  
JFWP  
4-17-06

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

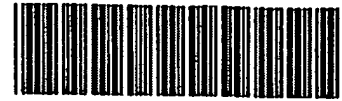
Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):  
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06



IFWP

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006

TIME: 12:24:50

Input Set : N:\DA\PTO.DA.txt

Output Set: N:\CRF4\04172006\J574470.raw

3 <110> APPLICANT: Japan Science and Technology Agency  
 4 National Institute of Advanced Industrial Science and Technology  
 6 <120> TITLE OF INVENTION: Producing process of plants with sterility, plants produced  
 by the  
 7 process, and use thereof  
 9 <130> FILE REFERENCE: A181-08PCT  
 C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/574,470  
 C--> 12 <141> CURRENT FILING DATE: 2006-03-31  
 12 <150> PRIOR APPLICATION NUMBER: JP 2004-2192  
 13 <151> PRIOR FILING DATE: 2004-01-07  
 15 <150> PRIOR APPLICATION NUMBER: JP 2004-93796  
 16 <151> PRIOR FILING DATE: 2004-03-26  
 18 <150> PRIOR APPLICATION NUMBER: JP 2004-221592  
 19 <151> PRIOR FILING DATE: 2004-07-29  
 21 <150> PRIOR APPLICATION NUMBER: JP 2004-231544  
 22 <151> PRIOR FILING DATE: 2004-08-06  
 25 <160> NUMBER OF SEQ ID NOS: 164  
 27 <170> SOFTWARE: PatentIn Ver. 2.1

Does Not Comply  
 Corrected Diskette Needed  
 (ps.1)

## ERRORED SEQUENCES

2328 <210> SEQ ID NO: 152  
 2329 <211> LENGTH: 6  
 2330 <212> TYPE: PRT  
 E--> 2332 <213> ORGANISM: Pls insert  
 2332 <400> SEQUENCE: 152  
 2333 Asp Leu Ser Leu Asp Leu  
 2334 1 5  
 2337 <210> SEQ ID NO: 153  
 2338 <211> LENGTH: 18  
 2339 <212> TYPE: DNA  
 E--> 2341 <213> ORGANISM: Pls insert  
 2341 <400> SEQUENCE: 153  
 2342 gatcttagcc taagcctg  
 2345 <210> SEQ ID NO: 154  
 2346 <211> LENGTH: 18  
 2347 <212> TYPE: DNA  
 E--> 2348 <213> ORGANISM: same error  
 2349 <400> SEQUENCE: 154  
 2350 caggcttagg ctaagatc

Most of errors shown exist throughout  
 the Sequence Listing. Please check subsequent  
 sequences for similar errors.

file://C:\CRF4\Outhold\VsrrJ574470.htm

genus/species

Pls  
 insert  
 mandatory  
 numeric  
 identifier  
 18  
 2137  
 Response  
 18  
 which can  
 be either  
 Artificial  
 Unknown  
 OR  
 4/17/2006



**VERIFICATION SUMMARY**

**PATENT APPLICATION: US/10/574,470**

**DATE: 04/17/2006**

**TIME: 12:24:51**

**Input Set : N:\DA\PTO.DA.txt**

**Output Set: N:\CRF4\04172006\J574470.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application No  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:2332 M:282 E: Numeric Field Identifier Missing, <213> is required.  
L:2341 M:282 E: Numeric Field Identifier Missing, <213> is required.  
L:2349 M:282 E: Numeric Field Identifier Missing, <213> is required.

Please type a plus sign (+) inside this box → +

**TRANSMITTAL  
FORM***(to be used for all correspondence after initial filing)*

Application Number	10/574,470
Filing Date	March 31, 2006
Inventor(s)	Masaru TAKAGI et al.
Group Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	12480-000175/US

**ENCLOSURES (check all that apply)**☐ Fee Transmittal Form☐ Fee Attached☒ Amendment☐ After Final☐ Affidavits/declaration(s)☐ Extension of Time Request☐ Express Abandonment Request☐ Information Disclosure Statement☐ Certified Copy of Priority Document(s)☒ Response to Missing Parts/  
Incomplete Application☐ Response to Missing  
Parts under 37 CFR  
1.52 or 1.53☐ Assignment Papers  
*(for an Application)*☐ Letter to the Official Draftsperson and  
\_\_\_\_ Sheets of Formal Drawing(s)☐ Licensing-related Papers☐ Petition☐ Petition to Convert to a  
Provisional Application☐ Power of Attorney, Revocation  
Change of Correspondence Address☐ Terminal Disclaimer☐ Request for Refund☐ CD, Number of CD(s) \_\_\_\_☐ After Allowance Communication to  
Group☐ LETTER SUBMITTING APPEAL  
BRIEF AND APPEAL BRIEF (w/clean  
version of pending claims)☐ Appeal Communication to Group  
*(Notice of Appeal, Brief, Reply Brief)*☐ Proprietary Information☐ Status Letter☒ Other Enclosure(s)  
*(please identify below):*

Declaration  
Statement Under 37 C.F.R. § 1.821(f)  
Copy of Sequence Listing  
Computer Readable Format (CRF)  
Sequence Listing (CD)  
Copy of Notice to File Missing  
Requirements

Remarks

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**Firm  
or  
Individual name

Harness, Dickey &amp; Pierce, P.L.C.

Attorney Name  
Donald J. DaleyReg. No.  
34,313

Signature

 (41,646)

Date

August 29, 2006

Mail Stop PCT  
PATENT  
12480-000175/US

IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICATION. NO.: 10/574,470  
APPLICANT: Masaru TAKAGI et al.  
INTERNATIONAL APPL. NO.: PCT/JP2005/000155  
CONF.: 3750  
FILED: March 31, 2006  
FOR: PRODUCING PROCESS OF STERILE  
PLANTS, PLANTS OBTAINED BY THE  
PROCESS, AND USE OF PLANTS

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**RESPONSE TO NOTICE TO FILE MISSING  
REQUIREMENTS OF AN APPLICATION**

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314  
**Mail Stop PCT**

August 29, 2006

Sir:

Under the provisions of 37 C.F.R. § 1.494 or 37 C.F.R. § 1.495, attached hereto are the following additional items necessary for entering the national phase in connection with the above-identified PCT international application.

- ☒ Executed Declaration and Power of Attorney.
- ☐ Original ☒ Photocopy
- ☐ The specification attached to the executed Declaration and Power of Attorney is a true copy of the specification which was filed in the U.S. Patent and Trademark Office on

, including any amendments thereto (if applicable) filed on even date therewith.

☒ The undersigned hereby declares that "Attorney Docket No. 12480-000175/US" on page 1 of the attached inventors' Declaration corresponds to Appl. No. 10/574,470, filed March 31, 2006 entitled "PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF PLANTS."

☐ English language specification, claims, and Abstract with ( ) sheets of drawings.

☐ Applicant claims small entity status under 37 C.F.R. § 1.27.

☐ Attached is a copy of Form PCT/DO/EO/905.

☐ \_\_\_\_\_

☒ No extension fee is required because the undersigned has filed the documents within the allotted time given by the Notification of Missing Requirements (Form PCT/DO/EO/905). However, if for some reason it is determined that an extension of time is necessary, applicant hereby respectfully petitions for an extension of time for the filing of the present paper in accordance with the provisions of 37 C.F.R. § 1.136 and 37 C.F.R. § 1.17.

☐ Applicant(s) hereby respectfully petitions for ( ) month(s) extension of time for the filing of the present paper in accordance with the provisions of 37 C.F.R. § 1.136 and 37 C.F.R. § 1.17. The required fee of \$0.00 is attached hereto.


The Government Filing Surcharge in the amount of \$130 in accordance with 37 C.F.R. §§ 1.494 and 1.492 was **previously paid for** concurrently with the filing of the application on **March 31, 2006.**

- ☒ Submitted concurrently herewith **under separate cover** for recording is an Assignment.
- ☐ A Fee of \$0.00 to cover the increase in fees of the filing Surcharge is enclosed.
- ☐ Check(s) in the amount of \$0.00 to cover the above-mentioned fees is/are enclosed.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKY & PIERCE, P.L.C.

By  (41,646)  
Donald J. Daley, Reg. No. 34,313  
P.O. Box 8910  
Reston, VA 20195  
(703) 668-8000

DJD/GPB:ame

Attachments

# DECLARATION AND POWER OF ATTORNEY

Atty. Dkt. No.: 12480-000175/US

## DECLARATION

As a below named inventor, I hereby declare that:

My residence, mailing address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

### PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS

the specification of which (check one)

- ☐ is attached hereto.  
or  
☒ was filed on January 7, 2005 as Application Serial No. or PCT International Application No. PCT/JP2005/000155 and was amended on November 4, 2005 (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR § 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. §§ 119(a)-(d) or 365(b) of any foreign application(s) for patent or inventor's certificate, or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or any PCT international application having a filing date before that of the application on which priority is claimed:

PRIOR FOREIGN APPLICATION(S)				
APPN. SERIAL NO.	COUNTRY	DATE FILED (MM/DD/YYYY)	PRIORITY CLAIM	
			Yes	No
2004-002191	JAPAN	01/07/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-093796	JAPAN	03/26/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-221592	JAPAN	07/29/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2004-231544	JAPAN	08/06/2004	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## DECLARATION AND POWER OF ATTORNEY

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

PRIOR PROVISIONAL APPLICATION(S)	
APPN. SERIAL NO.	DATE FILED (MM/DD/YYYY)

I hereby claim the benefit under 35 U.S.C. § 120 of any United States application(s) listed below:

PRIOR U.S. APPLICATION(S)		
APPN. SERIAL NO.	DATE FILED (MM/DD/YYYY)	STATUS - PATENTED, PENDING, ABANDONED

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

## POWER OF ATTORNEY

I hereby appoint the following attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.

John A. Castellano	Reg. No. 35,094
Terry L. Clark	Reg. No. 32,644
Donald J. Daley	Reg. No. 34,313
Gary D. Yacura	Reg. No. 35,416

and all individuals assigned to Customer No. **30593**.

# DECLARATION AND POWER OF ATTORNEY

Atty. Dkt. No. 12480-000175/US

**Full name of sole or first inventor:** Masaru TAKAGI

**Inventor's signature:** Masaru Takagi

**Date:** April 19, 2006

**Residence:** c/o NATIONAL INSTITUTE OF ADVANCED  
INDUSTRIAL SCIENCE AND TECHNOLOGY  
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi  
Ibaraki 305-8562 Japan

**Citizenship:** Japanese

**Mailing Address:** SAME AS ABOVE

**Full name of second joint inventor:** Keiichiro HIRATSU

**Inventor's signature:** Keiichiro Hiratsu

**Date:** April 19, 2006

**Residence:** c/o NATIONAL INSTITUTE OF ADVANCED  
INDUSTRIAL SCIENCE AND TECHNOLOGY  
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi  
Ibaraki 305-8562 Japan

**Citizenship:** Japanese

**Mailing Address:** SAME AS ABOVE

**Full name of third joint inventor:** Nobutaka MITSUDA

**Inventor's signature:** Nobutaka Mitsuda

**Date:** April 19, 2006

**Residence:** c/o NATIONAL INSTITUTE OF ADVANCED  
INDUSTRIAL SCIENCE AND TECHNOLOGY  
Tsukuba Central 4, 1-1, Higashi 1-chome, Tsukuba-shi  
Ibaraki 305-8562 Japan

**Citizenship:** Japanese

**Mailing Address:** SAME AS ABOVE



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 10/574,470

Confirmation No.: 3750

Applicant: Masaru TAKAGI et al.

Group Art Unit: Unassigned

Filing Date: March 31, 2006

Examiner: Unassigned

Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS  
OBTAINED BY THE PROCESS, AND USE OF PLANTS

Attorney Docket: 12480-000175/US

---

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314  
**Mail Stop Sequence**

August 29, 2006

**PRELIMINARY AMENDMENT**  
**and**  
**RESPONSE TO NOTICE TO COMPLY**

Sir:

In response to the Notice to Comply with Requirements for Patent Applications Containing Nucleotide Sequence and/or Amino Acid Sequence Disclosures ("Notice") dated June 29, 2006, the Applicants hereby provide a Sequence Listing, in both hardcopy and computer readable form, and respectfully request entry of this Sequence Listing in order to comply with the requirements of 37 C.F.R. §§ 1.821-1.825.

## REMARKS

Favorable reconsideration of this application in light of the following remarks is respectfully requested.

The Sequence Listing has been amended to include additional information at lines <220> and <223> for each sequence identified as an "Artificial Sequence" as indicated in the Raw Sequence Listing Error Summary provided with the Notice. The actual sequences of amino acids and nucleotides have not been amended and are intended to be and are believed to be identical to those originally submitted.

No claims having been canceled or added, the Applicants respectfully submit that claims 1-36 remain properly under consideration in this application.

## CONCLUSION


In view of the above remarks, the Applicants respectfully submit that the present application in condition for examination and allowance. A Notice to that effect is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge any underpayment or non-payment of any fees required under 37 C.F.R. §§ 1.16 or 1.17, or credit any overpayment of such fees, to Deposit Account No. 08-0750, including, in particular, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY & PIERCE, P.L.C.

By  (41,646)  
Donald J. Daley, Reg. No. 34,313

P.O. Box 8910  
Reston, VA 20195  
(703) 668-8000

DJD/GPB:ame

Enclosures: Statement Under 37 C.F.R. § 1.821(f)  
Copy of Sequence Listing  
Verification Summary Report (Checker 4.4.0 Output)  
Computer Readable Format (CRF) Sequence Listing (CD)

JST\_A181-08US Sequence Listing (Amended).txt  
SEQUENCE LISTING

<110> Japan Science and Technology Agency  
National Institute of Advanced Industrial Science and Technology

<120> Producing process of plants with sterility, plants produced by the process,  
and use thereof

<130> A181-08PCT

<150> JP 2004-2192  
<151> 2004-01-07

<150> JP 2004-93796  
<151> 2004-03-26

<150> JP 2004-221592  
<151> 2004-07-29

<150> JP 2004-231544  
<151> 2004-08-06

<160> 164

<170> PatentIn Ver. 2.1

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Synthesized Amino Acid Sequence

<400> 1  
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<210> 2  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
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1 5 10

<210> 3  
<211> 11  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Page 1

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized Amino Acid Sequence

<400> 3  
Leu Asp Leu Asn Leu Ala Ala Ala Ala Ala Ala  
1 5 10

<210> 4  
<211> 10  
<212> PRT  
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<220>  
<223> Description of Artificial Sequence:Artificially  
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1 5 10

<210> 5  
<211> 6  
<212> PRT  
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<220>  
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Synthesized Amino Acid Sequence

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1 5

<210> 6  
<211> 10  
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<220>  
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<220>  
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1 5

JST\_A181-08US Sequence Listing (Amended).txt

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<210> 9  
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 1 5 10

<210> 12  
 <211> 11  
 <212> PRT  
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 <223> Description of Artificial Sequence:Artificially  
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JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized Amino Acid Sequence

<400> 12  
Phe Asp Leu Asn Ile Pro Pro Ile Pro Glu Phe  
1 5 10

<210> 13  
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<220>  
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<220>  
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Met Glu Phe  
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JST\_A181-08US Sequence Listing (Amended).txt

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1 5 10

<210> 17

<211> 12

<212> PRT

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<220>

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<210> 18

<211> 204

<212> PRT

<213> Arabidopsis thaliana

<400> 18

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Ala Arg Thr Ser Pro Trp Ser Tyr Gly Asp Tyr Asp Asn Cys Gln Gln  
20 25 30

Asp His Asp Tyr Leu Leu Gly Phe Ser Trp Pro Pro Arg Ser Tyr Thr  
35 40 45

Cys Ser Phe Cys Lys Arg Glu Phe Arg Ser Ala Gln Ala Leu Gly Gly  
50 55 60

His Met Asn Val His Arg Arg Asp Arg Ala Arg Leu Arg Leu Gln Gln  
65 70 75 80

Ser Pro Ser Ser Ser Ser Thr Pro Ser Pro Pro Tyr Pro Asn Pro Asn  
85 90 95

Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro  
100 105 110

Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg  
115 120 125

Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu  
130 135 140

Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu  
145 150 155 160

Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp  
165 170 175

Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu  
180 185 190

Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala



JST\_A181-08US Sequence Listing (Amended).txt

195

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Ser Glu Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
20 25 30

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<210> 21  
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<220>  
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1 5

<210> 22  
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<400> 22  
Asp Leu Gln Leu Arg Leu  
1 5

<210> 23  
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JST\_A181-08US Sequence Listing (Amended).txt

<220>

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<400> 23

Asp Leu Arg Leu Arg Leu  
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<211> 6

<212> PRT

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<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

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Glu Leu Glu Leu Arg Leu  
1 5

<210> 25

<211> 6

<212> PRT

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<223> Description of Artificial Sequence:Artificially  
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<400> 25

Asn Leu Glu Leu Arg Leu  
1 5

<210> 26

<211> 6

<212> PRT

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<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

<400> 26

Gln Leu Glu Leu Arg Leu  
1 5

<210> 27

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

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Synthesized Amino Acid Sequence

<400> 27

Asp Leu Glu Leu Asn Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

<210> 28  
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Synthesized Amino Acid Sequence

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Asp Leu Glu Leu Gln Leu  
1 5

<210> 29  
<211> 6  
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<220>  
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<210> 30  
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<210> 31  
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<400> 31  
Ser Leu Glu Leu Arg Leu  
1 5

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JST\_A181-08US Sequence Listing (Amended).txt

<220>

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<210> 33

<211> 6

<212> PRT

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<210> 34

<211> 6

<212> PRT

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<210> 35

<211> 6

<212> PRT

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1 5

<210> 36

<211> 6

<212> PRT

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<220>

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Synthesized Amino Acid Sequence

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Asp Leu Glu Phe Arg Leu  
1 5

JST\_A181-08US Sequence Listing (Amended).txt

<210> 37  
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1 5

<210> 38  
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1 5

<210> 39  
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<220>  
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1 5

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<220>  
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1 5

<210> 41  
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JST\_A181-08US Sequence Listing (Amended).txt

<220>

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<210> 42

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

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Leu Asp Leu Glu Leu  
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<210> 43

<211> 5

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 43

Phe Asp Leu Asn Phe  
1 5

<210> 44

<211> 5

<212> PRT

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<223> Description of Artificial Sequence:Artificially  
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Phe Asp Leu Asn Ile  
1 5

<210> 45

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

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JST\_A181-08US Sequence Listing (Amended).txt

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<210> 47  
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<210> 48  
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Synthesized Amino Acid Sequence

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<210> 49  
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<210> 50  
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JST\_A181-08US Sequence Listing (Amended).txt

<220>

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<210> 51

<211> 8

<212> PRT

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<210> 52

<211> 9

<212> PRT

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<210> 53

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<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized Amino Acid Sequence

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<210> 54

<211> 9

<212> PRT

<213> Artificial Sequence

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Synthesized Amino Acid Sequence

<400> 54

Leu Asp Leu Asp Leu Asp Leu Arg Leu  
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JST\_A181-08US Sequence Listing (Amended).txt

<210> 55  
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<210> 56  
 <211> 36  
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<220>  
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<400> 56  
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36

<210> 57  
 <211> 36  
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<220>  
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<210> 58  
 <211> 33  
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<220>  
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33

<210> 59  
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<220>  
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JST\_A181-08US Sequence Listing (Amended).txt

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<210> 61  
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<220>  
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<210> 62  
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<210> 63  
<211> 30  
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<210> 64  
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<223> Description of Artificial Sequence:Artificially  
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<210> 65  
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<210> 66  
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<220>  
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<210> 67  
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<220>  
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<210> 68  
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<210> 69  
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JST\_A181-08US Sequence Listing (Amended).txt

<220>  
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<220>  
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<210> 71  
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<210> 72  
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<220>  
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<210> 73  
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JST\_A181-08US Sequence Listing (Amended).txt

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<210> 75  
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<400> 75  
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<210> 76  
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<400> 76  
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<210> 77  
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<220>  
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<400> 77  
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<210> 78  
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<220>  
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<400> 78  
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JST\_A181-08US Sequence Listing (Amended).txt

<210> 79  
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 <223> Description of Artificial Sequence:Artificially  
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 gaattcaggg atcggagggga tggtgaggtc aaa 33  
  
 <210> 80  
 <211> 39  
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 <223> Description of Artificial Sequence:Artificially  
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 aacacaatcc aacggtggaa aattaagatc gaattgaaa 39  
  
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 gatctagatc tccgtttg 18  
  
 <210> 83  
 <211> 18  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 83  
 caaacggaga tctagatc 18

JST\_A181-08US Sequence Listing (Amended).txt

<210> 84  
 <211> 105  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 84  
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 agaggaattg atcttgatct taaccttgct ccacctatgg aattt 105

<210> 85  
 <211> 105  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 85  
 aaattccata ggtggagcaa ggttaagatc aagatcaatt cctcttttcc catcatattg 60  
 gttctcttcc actgcagagg acgagtcgga cacagtagga cccac 105

<210> 86  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 86  
 gatctggatc tagaactccg tttgggtttc gct 33

<210> 87  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 87  
 agcgaaaccc aaacggagtt ctagatccag atc 33

<210> 88  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized DNA Sequence

<400> 88  
cttgatctgg atctagaact ccgtttgggt ttcgct 36

<210> 89  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 89  
agcgaaaccc aaacggagtt ctagatccag atcaag 36

<210> 90  
<211> 615  
<212> DNA  
<213> Arabidopsis thaliana

<400> 90  
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ccatggagct atggagatta tgataattgc caacaggatc atgattatct tctaggggtt 120  
tcatggccac caagatccta cacttgcagc ttctgcaaaa gggaattcag atcggctcaa 180  
gcacttgggt gccacatgaa tgttcacaga agagacagag caagactcag attacaacag 240  
tctccatcat catcttcaac accttctcct ccttacccta accctaatta ctcttactca 300  
accatggcaa acttctctcc tctcatcat tctcctctaa ccctatttcc aaccctttct 360  
cctccatcct caccaagata tagggcaggt ttgatccgtt ccttgagccc caagtcaaaa 420  
catacaccag aaaacgcttg taagactaag aaatcatctc ttttagtgga ggctggagag 480  
gctacaaggt tcaccagtaa agatgcttgc aagatcctga ggaatgatga aatcatcagc 540  
ttggagcttg agattgggtt gattaacgaa tcagagcaag atctggatct agaactccgt 600  
ttgggtttcg cttaa 615

<210> 91  
<211> 93  
<212> DNA  
<213> Arabidopsis thaliana

<400> 91  
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ctggatctag aactccgttt gggtttcgct taa 93

<210> 92  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 92  
gatctaaacc tccgtctg 18

<210> 93  
<211> 18



JST\_A181-08US Sequence Listing (Amended).txt

<212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 93  
 cagacggagg tttagatc 18

<210> 94  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 94  
 gatctagacc tccgtctg 18

<210> 95  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 95  
 cagacggagg tctagatc 18

<210> 96  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 96  
 gatctacagc tccgtctg 18

<210> 97  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 97  
 cagacggagc tgtagatc 18

JST\_A181-08US Sequence Listing (Amended).txt

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<210> 98
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
        Synthesized DNA Sequence

<400> 98
gatctacgac tccgtttg                                     18

<210> 99
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
        Synthesized DNA Sequence

<400> 99
caaacggagt cgtagatc                                     18

<210> 100
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
        Synthesized DNA Sequence

<400> 100
gagctagaac tccgtttg                                     18

<210> 101
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
        Synthesized DNA Sequence

<400> 101
caaacggagt tctagctc                                     18

<210> 102
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
        Synthesized DNA Sequence

<400> 102
aacctagaac tccgtttg                                     18

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JST\_A181-08US Sequence Listing (Amended).txt

<210> 103  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 103  
caaacggagt tctaggtt 18

<210> 104  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 104  
cagctagaac tccgtttg 18

<210> 105  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 105  
caaacggagt tctagctg 18

<210> 106  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 106  
gatctagaac tcaacttg 18

<210> 107  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<400> 107 caagttgagt tctagatc	18
<210> 108 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence:Artificially Synthesized DNA Sequence	
<400> 108 gatctagaac tccagttg	18
<210> 109 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence:Artificially Synthesized DNA Sequence	
<400> 109 caactggagt tctagatc	18
<210> 110 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence:Artificially Synthesized DNA Sequence	
<400> 110 acgcttgaat taagactc	18
<210> 111 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence:Artificially Synthesized DNA Sequence	
<400> 111 gagtcttaat tcaagcgt	18
<210> 112 <211> 18 <212> DNA <213> Artificial Sequence	
<220> <223> Description of Artificial Sequence:Artificially	

JST\_A181-08US Sequence Listing (Amended).txt  
Synthesized DNA Sequence

<400> 112  
gatcttgaat taacgctc 18

<210> 113  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 113  
gagcgttaat tcaagatc 18

<210> 114  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 114  
agccttgaat taagactc 18

<210> 115  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 115  
gagtcttaat tcaaggct 18

<210> 116  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 116  
gatcttgaat taagcctc 18

<210> 117  
<211> 18  
<212> DNA  
<213> Artificial Sequence

JST\_A181-08US Sequence Listing (Amended).txt

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 117  
 gaggcttaat tcaagatc 18

<210> 118  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 118  
 gatcttacct taagactc 18

<210> 119  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 119  
 gagtcttaag gtaagatc 18

<210> 120  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 120  
 gatcttagct taagactc 18

<210> 121  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 121  
 gagtcttaag ctaagatc 18

<210> 122  
 <211> 18  
 <212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 122

gatcttcact taagactc

18

<210> 123

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 123

gagtcttaag tgaagatc

18

<210> 124

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 124

gatctcgaat ttcgtctc

18

<210> 125

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 125

gagacgaaat tcgagatc

18

<210> 126

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 126

gatttcgaac tacgtctc

18

<210> 127

JST\_A181-08US Sequence Listing (Amended).txt

<211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 127  
 gagacgtagt tcgaaatc 18  
  
 <210> 128  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence  
  
 <400> 128  
 tcgcttgatc tacacctg 18  
  
 <210> 129  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 129  
 caggtgtaga tcaagcga 18  
  
 <210> 130  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 130  
 gatcttacgc taaagctg 18  
  
 <210> 131  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 131  
 cagctttagc gtaagatc 18



JST\_A181-08US Sequence Listing (Amended).txt

<210> 132  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 132  
gatcttagcc taaagctg

18

<210> 133  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 133  
cagctttagg ctaagatc

18

<210> 134  
<211> 232  
<212> PRT  
<213> Arabidopsis thaliana

<400> 134  
Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Gln Thr Asn  
1 5 10 15  
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala  
20 25 30  
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe  
35 40 45  
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr  
50 55 60  
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp  
65 70 75 80  
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu  
85 90 95  
Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys  
100 105 110  
Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met  
115 120 125  
Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly  
130 135 140  
Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile  
145 150 155 160  
Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His  
165 170 175  
Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr  
180 185 190  
Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His  
195 200 205  
His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp  
210 215 220  
Ile Ile Thr Phe His Leu Leu Glu  
225 230

JST\_A181-08US Sequence Listing (Amended).txt

<210> 135  
 <211> 699  
 <212> DNA  
 <213> Arabidopsis thaliana

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<400> 135
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tattcaaaga gaagaaatgg ttatttcaag aaagcacatg agctcacggg tttgtgtgat 120
gctagggttt cgattatcat gttctctagc tccaacaagc ttcattgagta tatcagccct 180
aacaccacaa cgaaggagat cgtagatctg taccaacta tttctgatgt cgatgtttgg 240
gccactcaat atgagcgaat gcaagaaacc aagaggaaac tggtggagac aaatagaaat 300
ctccggactc agatcaagca gaggctaggg gagtggttgg acgagcttga cattcaggag 360
ctgcgtcgtc ttgaggatga aatggaaaac actttcaaac tcgttcgcga gcgcaagttc 420
aaatctcttg ggaatcagat cgagaccacc aagaaaaaga acaaaagtca acaagacata 480
caaaagaaat tcatacatga gctggaacta agagctgaag atcctcacta tggactagta 540
gacaatggag gagattacga ctcagttctt ggataccaaa tcgaagggtc acgtgcttac 600
gctcttcgtt tccaccagaa ccatcaccac tattacccca accatggcct tcatgcaccc 660
tctgcctctg acatcattac cttccatctt cttgaataa 699
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<210> 136  
 <211> 365  
 <212> PRT  
 <213> Arabidopsis thaliana

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<400> 136
Met Met Ser Lys Ser Met Ser Ile Ser Val Asn Gly Gln Ser Gln Val
 1          5          10          15
Pro Pro Gly Phe Arg Phe His Pro Thr Glu Glu Glu Leu Leu Gln Tyr
          20          25          30
Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile
          35          40          45
Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met
          50          55          60
Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His
          65          70          75          80
Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala
          85          90          95
Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn
          100          105          110
Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg
          115          120          125
Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu
          130          135          140
Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val
          145          150          155          160
Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg
          165          170          175
Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly
          180          185          190
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JST\_A181-08US Sequence Listing (Amended).txt

Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser  
 195 200 205  
 Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly  
 210 215 220  
 Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro  
 225 230 235 240  
 Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser  
 245 250 255  
 Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr  
 260 265 270  
 Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln  
 275 280 285  
 Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His  
 290 295 300  
 Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro  
 305 310 315 320  
 Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr  
 325 330 335  
 Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser  
 340 345 350  
 Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly  
 355 360 365

<210> 137  
 <211> 1098  
 <212> DNA  
 <213> Arabidopsis thaliana

<400> 137  
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 aggtttcatc cgaccgagga agagctgttg cagtattatc tccggaagaa agttaatagc 120  
 atcgagatcg atcttgatgt cattcgcgac gttgatctca acaagctcga gccttgggac 180  
 attcaagaga tgtgtaaaat aggaacaacg ccacaaaacg actggtatctt ctttagccac 240  
 aaggacaaaa aatatccgac gggaacgaga actaacagag ccactgcggc tggattttgg 300  
 aaagcaactg gccgcgacaa gatcatatat agcaatggcc gtagaattgg gatgagaaag 360  
 actcttggtt tctacaaagg ccgagctcct cacggccaaa aatctgattg gatcatgcat 420  
 gaatatagac tcgatgacaa cattatttcc cccgaggatg tcaccgttca tgaggtcgtg 480  
 agtattatag gggaagcatc acaagacgaa ggatgggtgg tgtgtcgtat tttcaagaag 540  
 aagaatcttc acaaaaccct aaacagtccc gtcggaggag cttccctgag cggcggcgga 600  
 gatacgccga agacgacatc atctcagatc ttcaacgagg atactctcga ccaatttctt 660  
 gaacttatgg ggagatcttg taaagaagag ctaaactctg accctttcat gaaactccca 720  
 aacctcgaaa gccctaacag tcaggcaatc aacaactgcc acgtaagctc tcccgcact 780  
 aatcataata tccacgtcag caacgtggtc gaactagct ttgttactag ctgggcggct 840  
 ttagaccgcc tcgtggcctc gcagcttaac ggaccacat catattcaat tacagccgtc 900  
 aatgagagcc acgtgggcca tgatcatctc gctttgcctt ccgtccgac tccgtacccc 960  
 agcctaacc ggtccgcttc gtaccacgcc ggtttaacac aggaatatac accggagatg 1020  
 gagctatgga atacgacgac gtcgtctcta tcgtcatcgc ctggccatt ttgtcacgtg 1080  
 tcgaatggta gtggataa 1098

<210> 138

## JST\_A181-08US Sequence Listing (Amended).txt

&lt;211&gt; 367

&lt;212&gt; PRT

&lt;213&gt; Arabidopsis thaliana

&lt;400&gt; 138

Met Gly His His Ser Cys Cys Asn Lys Gln Lys Val Lys Arg Gly Leu  
1 5 10 15Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn Tyr Ile Asn Ser Tyr  
20 25 30Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr  
35 40 45His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu  
50 55 60Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser  
65 70 75 80Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn  
85 90 95Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu  
100 105 110Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His  
115 120 125His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu  
130 135 140Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp  
145 150 155 160Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro  
165 170 175Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met  
180 185 190Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu  
195 200 205Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr  
210 215 220Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His  
225 230 235 240Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro  
245 250 255Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr  
260 265 270Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro  
275 280 285Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly  
290 295 300

Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe

## JST\_A181-08US Sequence Listing (Amended).txt

305 310 315 320  
 Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln  
                   325                  330                  335  
 His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser  
                   340                  345                  350  
 Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr  
                   355                  360                  365

<210> 139  
 <211> 1104  
 <212> DNA  
 <213> Arabidopsis thaliana

<400> 139  
 atgggtcatc actcatgctg caacaagcaa aaggtgaaga gagggctttg gtcacctgaa 60  
 gaagacgaaa agctcatcaa ctacatcaat tcatatggcc atggatgttg gagctctgtt 120  
 cctaaacatg caggcactta tacacatata catgggtttt gtttgagag atgtggaaaag 180  
 agttgtagat taagatggat aaattatcta agacctgac ttaaacgtgg aagcttctct 240  
 cctcaagaag ctgctcttat cattgagctt cacagcattc ttggtaacag atgggctcaa 300  
 attgctaaac atctacctgg aagaacagat aacgagggtca agaatttctg gaactcgagc 360  
 attaaaaaga agctcatgtc tcaccatcat cacgggtcatc atcatcatca tctctcttcc 420  
 atggcgagtt tgctcacaaa ccttccttat cacaatggat tcaaccctac tacagtcgac 480  
 gatgaaagtt caagattcat gtccaatatc atcacaaaca ctaaccctaa ttctcatcact 540  
 ccaagccatc tctctcttcc ttctctctcat gttatgacct cattgatgtt cccaacctct 600  
 agagaaggag atttcaagtt tctaaccaca aacaacccaa accaatctca tcaccatgat 660  
 aataaccatt acaacaacct cgacattttg tcaccacac caactataaa caatcatcat 720  
 caaccttcac tttcttcttg tcctcatgat aataatctcc aatggccagc gttaccagat 780  
 ttcccagcga gtaccatttc tggtttccaa gaaacccttc aagattatga tgatgctaata 840  
 aaactcaacg tgtttggtgac accattcaac gataatgccaa aaaagttatt atgtggagaa 900  
 gttctcgaag gcaaagtact atcttctctc tcaccaatct cacaagatca cggccttttt 960  
 ctccccacca cgtacaactt tcaaagtact tctacgagtg atcatcaaca tcatcatcga 1020  
 gtggactcat acatcaatca catgatcata ccatcatcat cctcatcgtc gccaatctct 1080  
 tgtggacagt acgtcataac ttaa 1104

<210> 140  
 <211> 253  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 140  
 Met Thr Ala Tyr Gln Ser Glu Leu Gly Gly Asp Ser Ser Pro Leu Arg  
   1                  5                  10                  15  
 Lys Ser Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr  
                   20                  25                  30  
 Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys  
                   35                  40                  45  
 Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val  
                   50                  55                  60  
 Phe Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys  
   65                  70                  75                  80  
 Gly Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr  
                   85                  90                  95

JST\_A181-08US Sequence Listing (Amended).txt

Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala  
100 105 110

Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu  
115 120 125

Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu  
130 135 140

Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn  
145 150 155 160

Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp  
165 170 175

Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu  
180 185 190

Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu  
195 200 205

Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg  
210 215 220

Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser  
225 230 235 240

Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val  
245 250

<210> 141  
<211> 762  
<212> DNA  
<213> Arabidopsis thaliana

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ggaaagatcg aaatcaaacg gatcgagaac acaacgaatc gtcaagtcac tttttgcaaa 120  
cgtagaaatg gtttgctcaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180  
gcactcatcg tcttctctag ccgtggctcg ctctatgagt actctaaca cagtgtaaaa 240  
gggactattg agaggtacaa gaaggcaata tcggacaatt ctaacaccgg atcggtggca 300  
gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360  
atacaaaact ccaacaggga attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420  
ctcaggaact tggaaggcag attagagaga agtattaccc gaatccgatc caagaagaat 480  
gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540  
aaccagattc ttcgtgcaaa gatagctgaa aatgagagga acaatccgag tataagtcta 600  
atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660  
tttgattcac ggaattattt ccaagtcgcg gcattgcaac ctaacaatca ccattactca 720  
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<210> 142  
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<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 142  
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JST\_A181-08US Sequence Listing (Amended).txt

<210> 143  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
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 <211> 23  
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 <213> Artificial Sequence  
  
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 <210> 145  
 <211> 31  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <211> 82  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 cggggggtacc gtcgacgagc tc 82  
  
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 <211> 73  
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 <220>  
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JST\_A181-08US Sequence Listing (Amended).txt

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<220>  
<223> Description of Artificial Sequence:Artificially  
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<400> 148  
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<210> 149  
<211> 47  
<212> DNA  
<213> Artificial Sequence

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<400> 149  
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<210> 150  
<211> 29  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
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<400> 150  
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<210> 151  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

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<210> 152  
<211> 6  
<212> PRT  
<213> Artificial Sequence



JST\_A181-08US Sequence Listing (Amended).txt

<220>

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Synthesized Amino Acid Sequence

<400> 152

Asp Leu Ser Leu Asp Leu  
1 5

<210> 153

<211> 18

<212> DNA

<213> Artificial Sequence

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Synthesized Primer Sequence

<400> 153

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18

<210> 154

<211> 18

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Artificially  
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18

<210> 155

<211> 27

<212> DNA

<213> Artificial Sequence

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27

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<213> Artificial Sequence

<220>

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Synthesized Primer Sequence

<400> 156

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23

<210> 157

<211> 30

JST\_A181-08US Sequence Listing (Amended).txt

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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Artificially
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<400> 157
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<210> 158
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<212> DNA
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<212> DNA
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taccgtcgac gagct
75

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<213> Artificial Sequence

<220>
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aattgtg
67

<210> 161
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<212> DNA
<213> Artificial Sequence

<220>
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<400> 161
gatggcgaga gggaagatcc agatcaag
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JST\_A181-08US Sequence Listing (Amended).txt

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<212> DNA  
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<220>  
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Synthesized DNA Sequence

<400> 162  
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<210> 163  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

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<210> 164  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 164  
cttaagcgaa acccaaacgg agttctagat ccagatccag 40

DJD



UNITED STATES PATENT AND TRADEMARK OFFICE 12480-000175/US

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/574,470	Masaru Takagi	12480000175US

INTERNATIONAL APPLICATION NO.
-------------------------------

PCT/JP05/00155

I.A. FILING DATE	PRIORITY DATE
------------------	---------------

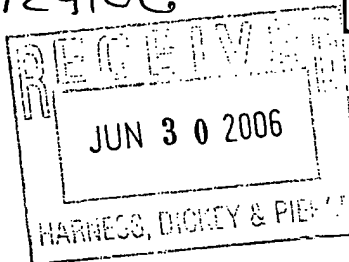
01/07/2005

01/07/2004

30593

HARNES, DICKEY & PIERCE, P.L.C.  
 P.O. BOX 8910  
 RESTON, VA 20195

Miss reg.  
 8/29/06



CONFIRMATION NO. 3750

371 FORMALITIES LETTER



\*OC000000019439069\*

Date Mailed: 06/29/2006

### NOTIFICATION OF MISSING REQUIREMENTS UNDER 35 U.S.C. 371 IN THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US)

The following items have been submitted by the applicant or the IB to the United States Patent and Trademark Office as a Designated / Elected Office (37 CFR 1.495).

- Copy of the International Application filed on 03/31/2006
- English Translation of the IA filed on 03/31/2006
- Copy of the International Search Report filed on 03/31/2006
- Copy of IPE Report filed on 03/31/2006
- Preliminary Amendments filed on 03/31/2006
- Information Disclosure Statements filed on 03/31/2006
- Biochemical Sequence Diskette filed on 03/31/2006
- Biochemical Sequence Listing filed on 03/31/2006
- Request for Immediate Examination filed on 03/31/2006
- U.S. Basic National Fees filed on 03/31/2006
- Priority Documents filed on 03/31/2006
- Specification filed on 03/31/2006
- Claims filed on 03/31/2006
- Abstracts filed on 03/31/2006
- Drawings filed on 03/31/2006

The following items **MUST** be furnished within the period set forth below in order to complete the requirements for acceptance under 35 U.S.C. 371:

- Oath or declaration of the inventors, in compliance with 37 CFR 1.497(a) and (b), identifying the application by the International application number and international filing date.
- A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing." Applicant must provide a

substitute computer readable form (CRF) copy of the "Sequence Listing" and a statement that the content of the sequence listing information recorded in computer readable form is identical to the written (on paper or compact disc) sequence listing and, where applicable, includes no new matter, as required by 37 CFR 1.821(e), 1.821(f), 1.821(g), 1.825(b), or 1.825(d).

**ALL OF THE ITEMS SET FORTH ABOVE MUST BE SUBMITTED WITHIN TWO (2) MONTHS FROM THE DATE OF THIS NOTICE OR BY 32 MONTHS FROM THE PRIORITY DATE FOR THE APPLICATION, WHICHEVER IS LATER. FAILURE TO PROPERLY RESPOND WILL RESULT IN ABANDONMENT.**

The time period set above may be extended by filing a petition and fee for extension of time under the provisions of 37 CFR 1.136(a).

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

**For questions regarding compliance to 37 CFR 1.821-1.825 requirements, please contact:**

- For Rules Interpretation, call (571) 272-0951
- For Patentin Software Program Help, call Patent EBC at 1-866-217-9197 or directly at 703-305-3028 / 703-308-6845 between the hours of 6 a.m. and 12 midnight, Monday through Friday, EST.
- Send e-mail correspondence for Patentin Software Program Help @ [ebc@uspto.gov](mailto:ebc@uspto.gov)

Applicant is reminded that any communications to the United States Patent and Trademark Office must be mailed to the address given in the heading and include the U.S. application no. shown above (37 CFR 1.5)

*A copy of this notice **MUST** be returned with the response.*

LAMONT M HUNTER

Telephone: (703) 308-9140 EXT 201

**PART 1 - ATTORNEY/APPLICANT COPY**

U.S. APPLICATION NUMBER NO.	INTERNATIONAL APPLICATION NO.	ATTY. DOCKET NO.
10/574,470	PCT/JP05/00155	12480000175US

## STIC Biotechnology Systems Branch

### RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number:

Source:

Date Processed by STIC:

10/574,470  
JFWP  
4-17-06

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.4.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<<http://www.uspto.gov/ebc/efs/downloads/documents.htm>> , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 01/14/05):  
U.S. Patent and Trademark Office, Mail Stop Sequence, Customer Window, Randolph Building, 401 Dulany Street, Alexandria, VA 22314

Revised 01/10/06



IFWP

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006  
TIME: 12:24:50

Input Set : N:\DA\PTO.DA.txt  
Output Set: N:\CRF4\04172006\J574470.raw

3 <110> APPLICANT: Japan Science and Technology Agency  
4 National Institute of Advanced Industrial Science and Technology  
6 <120> TITLE OF INVENTION: Producing process of plants with sterility, plants produced  
by the  
7 process, and use thereof  
9 <130> FILE REFERENCE: A181-08PCT  
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/574,470  
C--> 12 <141> CURRENT FILING DATE: 2006-03-31  
12 <150> PRIOR APPLICATION NUMBER: JP 2004-2192  
13 <151> PRIOR FILING DATE: 2004-01-07  
15 <150> PRIOR APPLICATION NUMBER: JP 2004-93796  
16 <151> PRIOR FILING DATE: 2004-03-26  
18 <150> PRIOR APPLICATION NUMBER: JP 2004-221592  
19 <151> PRIOR FILING DATE: 2004-07-29  
21 <150> PRIOR APPLICATION NUMBER: JP 2004-231544  
22 <151> PRIOR FILING DATE: 2004-08-06  
25 <160> NUMBER OF SEQ ID NOS: 164  
27 <170> SOFTWARE: PatentIn Ver. 2.1

Does Not Comply  
Corrected Diskette Needed

(pg.1)

## ERRORED SEQUENCES

2328 <210> SEQ ID NO: 152  
2329 <211> LENGTH: 6  
2330 <212> TYPE: PRT  
E--> 2332 <213> ORGANISM: pls insert  
2332 <400> SEQUENCE: 152  
2333 Asp Leu Ser Leu Asp Leu  
2334 1 5  
2337 <210> SEQ ID NO: 153  
2338 <211> LENGTH: 18  
2339 <212> TYPE: DNA  
E--> 2341 <213> ORGANISM: pls insert  
2341 <400> SEQUENCE: 153  
2342 gatcttagcc taagcctg  
2345 <210> SEQ ID NO: 154  
2346 <211> LENGTH: 18  
2347 <212> TYPE: DNA  
E--> 2348 <213> ORGANISM: same error  
2349 <400> SEQUENCE: 154  
2350 caggcttagc ctaagatc

Some of errors shown exist throughout  
the Sequence Listing. Please check subsequent  
sequences for similar errors.

file://C:\CRF4\Outhold\VsrJ574470.htm

← Pls  
insert  
mandatory  
numeric  
identifier  
<213>  
Response  
which can  
be either  
Artificial  
Unknown  
OR  
4/17/2006  
genus/species

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/574,470

DATE: 04/17/2006

TIME: 12:24:51

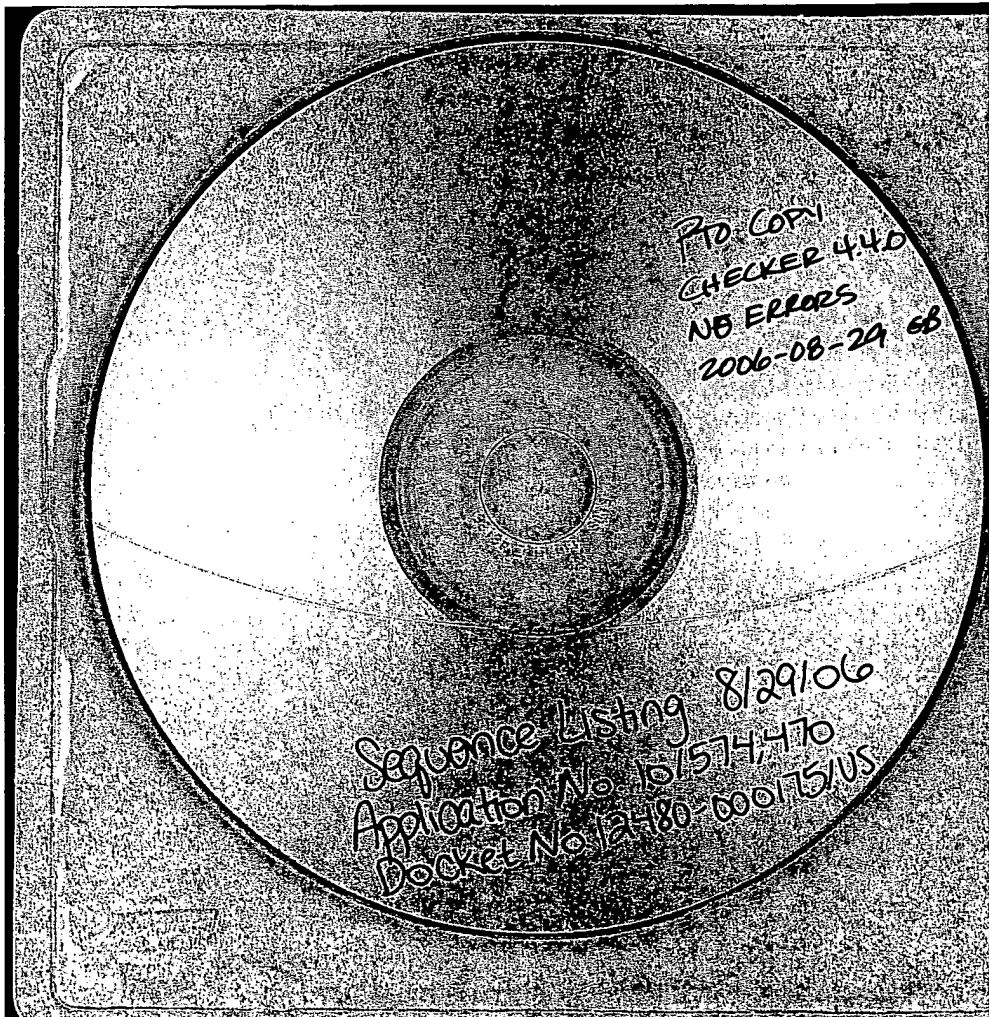
Input Set : N:\DA\PTO.DA.txt


Output Set: N:\CRF4\04172006\J574470.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No  
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:2332 M:282 E: Numeric Field Identifier Missing, <213> is required.  
L:2341 M:282 E: Numeric Field Identifier Missing, <213> is required.  
L:2349 M:282 E: Numeric Field Identifier Missing, <213> is required.



Applicant(s):	Masaru TAKAGI et al.	Case No.:	12480-000175/US
Serial No.:	11/574,470	Filing Date:	March 31, 2006
Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS			
Transmittal Letter Submitting Documents for Completion of an Application Declaration Preliminary Amendment Statement Under 37 C.F.R. 1.821(f) Hard Copy of Sequence Listing Computer Readable Format (CRF) Sequence Listing (CD) Copy of Notice to File Missing Requirements			
By stamping and returning to Harness, Dickey & Pierce, P.L.C.			USPTO Date Stamp
Due:	08/29/2006	Attorney:	DJD/GPB/ame FILED: 08/29/2006



Applicant(s): Masaru TAKAGI et al.	Case No.: 12480-000175/US
Serial No.: 11/574,470	Filing Date: March 31, 2006
Title: PRODUCING PROCESS OF STERILE PLANTS, PLANTS OBTAINED BY THE PROCESS, AND USE OF THE PLANTS	
Transmittal Letter Submitting Documents for Completion of an Application Declaration Preliminary Amendment Statement Under 37 C.F.R. 1.821(f) Hard Copy of Sequence Listing Computer Readable Format (CRF) Sequence Listing (CD) Copy of Notice to File Missing Requirements	
By stamping and returning to Harness, Dickey & Pierce, P.L.C.	
Due: 08/29/2006	Attorney: DJD/GPB/ame USPTO Date Stamp FILED: 08/29/2006

20

**Brummett, Gregory P.**

---

**From:** Corrigan, Anne-Marie [Anne-Marie.Corrigan@USPTO.GOV]  
**Sent:** Friday, August 31, 2007 2:59 PM  
**To:** Brummett, Gregory P.  
**Cc:** Hunter, Lamont  
**Subject:** RE: 10/574470

Mr. Brummett:

1) The Sequence Listing CD filed August 29, 2006, had been listed as an "artifact," and stored in artifact. It was retrieved, yesterday (8/30/07) and delivered to my building on the USPTO campus. I informed the PTO group which processes CRF's (computer readable forms) that I had a RUSH case; a group member picked up the CD, this morning. It was processed, and I annotated it: one error found.

2) The error in the processed CD was in Sequence 55 (see below).

<210> 55  
<211> 6  
<212> PRT  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

The above <223> explantion had one incorrect part: Sequence 55 is not a DNA sequence: it is an amino acid sequence. Thus, the correct response would be "Artificially Synthesized amino acid sequence." Checker would not note this error because when it spots a "<213> Artificial Sequence," it only checks for a <220> line and a <223> line. It cannot read the <223> response. That is why Checker did not flag this sequence as errored.

As for the following portion of your e-mail:

"It is also my understanding that the Notice of Defective Response dated July 30, 2007, which was based solely on the Sequence Listing filed on March 31, 2006, should be withdrawn in favor of a new Notice regarding any deficiencies noted in the listing provided August 29, 2006. If my understanding is incorrect or incomplete in any regard, please advise accordingly."

Since I do not work in the PCT DO/EO office, I cannot respond to your statements: only Mr. Hunter can do so.

Thank you,  
Anne-Marie Corrigan

Anne-Marie Corrigan  
STIC Systems Branch

Remsen 2B15  
tele.: 571-272-2501  
fax: 571-273-0221  
anne-marie.corrigan@uspto.gov

-----Original Message-----

From: Brummett, Gregory P. [mailto:gbrummett@hdp.com]  
Sent: Friday, August 31, 2007 2:29 PM  
To: Corrigan, Anne-Marie  
Cc: Hunter, Lamont  
Subject: 10/574470

Ms. Corrigan,

Thank you for your assistance with this matter. I understand from our conversations that the Sequence Listing CD filed August 29, 2006, was located at the Office and has now been processed. It is also my understanding that the Notice of Defective Response dated July 30, 2007, which was based solely on the Sequence Listing filed on March 31, 2006, should be withdrawn in favor of a new Notice regarding any deficiencies noted in the listing provided August 29, 2006. If my understanding is incorrect or incomplete in any regard, please advise accordingly.

With respect to the August 29, 2006, Sequence Listing, it is also my understanding that one error was noted during the processing, specifically the mischaracterization in line <212> of the associated sequence. I have reviewed our copy of the August 29, 2006, Sequence Listing and was unable to identify any SEQ ID NO. that reflects this problem through manual review and application of Checker 4.4.0 and I remain, accordingly, perplexed by this new error. Is this a problem that Checker should flag? Please advise.

I believe in the next attempt I will utilize the EFS for filing the Sequence Listing and hopefully expedite the process.

Best regards,

Greg Brummett

Gregory P. Brummett  
Harness, Dickey & Pierce, P.L.C.  
11730 Plaza America Drive  
Suite 600  
Reston, Virginia 20190  
T: (703) 668-8034  
F: (703) 668-8200  
gbrummett@hdp.com

10/574,470      Producing process of sterile plants plants obtained by the process and      06-30-  
use of the plants      2009::08:58:52

**This application is officially maintained in electronic form. To View: Click the desired Document Description. To Download and Print: Check the desired document(s) and click PDF.**

### **Bibliographic Data**

<b>Mail Room Date</b>	<b>Document Code</b>	<b>Document Description</b>	<b>Document Category</b>	<b>Page Count</b>
05-18-2009	IMIS	Miscellaneous Internal Document	PROSECUTION	1
05-14-2009	ABN	Abandonment	PROSECUTION	2
11-13-2007	TRAN.LET	Transmittal Letter	PROSECUTION	5
11-13-2007	IDS	Information Disclosure Statement (IDS) Filed (SB/08)	PROSECUTION	1
11-13-2007	NPL	NPL Documents	PRIOR ART	2
11-13-2007	NPL	NPL Documents	PRIOR ART	8
09-04-2007	SEQ.TXT	Sequence Listing (Text File)	PROSECUTION	1
09-04-2007	A.PE	Preliminary Amendment	PROSECUTION	1
09-04-2007	REM	Applicant Arguments/Remarks Made in an Amendment	PROSECUTION	2
09-04-2007	N417	EFS Acknowledgment Receipt	PROSECUTION	2
08-29-2007	SEQ.TXT	Sequence Listing (Text File)	PROSECUTION	1
09-22-2006	IDS	Information Disclosure Statement (IDS) Filed (SB/08)	PROSECUTION	7
09-22-2006	NPL	NPL Documents	PRIOR ART	34
09-22-2006	FOR	Foreign Reference	PRIOR ART	20
09-22-2006	NPL	NPL Documents	PRIOR ART	9
09-22-2006	NPL	NPL Documents	PRIOR ART	5
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09-22-2006	NPL	NPL Documents	PRIOR ART	10
09-22-2006	NPL	NPL Documents	PRIOR ART	10
08-29-2006	PEFR	Applicant Response to Pre-Exam Formalities Notice	PROSECUTION	6
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08-29-2006	A.PE	Preliminary Amendment	PROSECUTION	1
08-29-2006	REM	Applicant Arguments/Remarks Made in an Amendment	PROSECUTION	2
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08-29-2006	CRFD	Computer Readable Form (CRF) for Sequence Listing - Defective	PROSECUTION	3
08-29-2006	ARTIFACT	Artifact sheet indicating an item has been	PROSECUTION	1

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08-29-2006	IMIS	Miscellaneous Internal Document	PROSECUTION	1
08-29-2006	PEFN	Pre-Exam Formalities Notice	PROSECUTION	2
07-05-2006	M905	Notice of DO/EO Missing Requirements Mailed	PROSECUTION	2
04-17-2006	CRFD	Computer Readable Form (CRF) for Sequence Listing - Defective	PROSECUTION	3
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03-31-2006	ABST	Abstract	PROSECUTION	1
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03-31-2006	WFEE	Fee Worksheet (PTO-875)	PROSECUTION	1
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03-31-2006	A.PE	Preliminary Amendment	PROSECUTION	2
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&lt;210&gt; 5

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Asp Leu Glu Leu Arg Leu  
1 5

&lt;210&gt; 6

&lt;211&gt; 10

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&lt;210&gt; 7

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Leu Asp Leu Glu Leu Arg Leu



1

5

&lt;210&gt; 8

&lt;211&gt; 11

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&lt;400&gt; 8

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&lt;210&gt; 9

&lt;211&gt; 10

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Synthesized Amino Acid Sequence

&lt;400&gt; 9

Leu Asp Leu Glu Leu Arg Leu Ala Ala Ala  
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&lt;210&gt; 10

&lt;211&gt; 8

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Leu Asp Leu Glu Leu Arg Leu Gly  
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&lt;210&gt; 11

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&lt;400&gt; 11

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&lt;211&gt; 11

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<210> 13

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20 25 30

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&lt;400&gt; 16

Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
1 5 10

&lt;210&gt; 17

&lt;211&gt; 12

&lt;212&gt; PRT

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&lt;400&gt; 17

Leu Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
1 5 10

&lt;210&gt; 18

&lt;211&gt; 204

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85 90 95Tyr Ser Tyr Ser Thr Met Ala Asn Ser Pro Pro Pro His His Ser Pro  
100 105 110Leu Thr Leu Phe Pro Thr Leu Ser Pro Pro Ser Ser Pro Arg Tyr Arg  
115 120 125Ala Gly Leu Ile Arg Ser Leu Ser Pro Lys Ser Lys His Thr Pro Glu  
130 135 140Asn Ala Cys Lys Thr Lys Lys Ser Ser Leu Leu Val Glu Ala Gly Glu  
145 150 155 160Ala Thr Arg Phe Thr Ser Lys Asp Ala Cys Lys Ile Leu Arg Asn Asp  
165 170 175Glu Ile Ile Ser Leu Glu Leu Glu Ile Gly Leu Ile Asn Glu Ser Glu  
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180 185 190  
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           195                  200

<210> 19  
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 <213> Arabidopsis thaliana

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   1                  5                  10                  15

Ser Glu Gln Asp Leu Asp Leu Glu Leu Arg Leu Gly Phe Ala  
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 Asp Leu Asn Leu Arg Leu  
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<210> 23  
 <211> 6

<212> PRT  
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Synthesized Amino Acid Sequence

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Asp Leu Arg Leu Arg Leu  
1 5

<210> 24  
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Glu Leu Glu Leu Arg Leu  
1 5

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Asn Leu Glu Leu Arg Leu  
1 5

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Gln Leu Glu Leu Arg Leu  
1 5

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&lt;400&gt; 27

Asp Leu Glu Leu Asn Leu  
1 5

&lt;210&gt; 28

&lt;211&gt; 6

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&lt;220&gt;

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&lt;400&gt; 28

Asp Leu Glu Leu Gln Leu  
1 5

&lt;210&gt; 29

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

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&lt;400&gt; 29

Thr Leu Glu Leu Arg Leu  
1 5

&lt;210&gt; 30

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
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&lt;400&gt; 30

Asp Leu Glu Leu Thr Leu  
1 5

&lt;210&gt; 31

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

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&lt;400&gt; 31

Ser Leu Glu Leu Arg Leu  
1 5

&lt;210&gt; 32

&lt;211&gt; 6

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Asp Leu Glu Leu Ser Leu  
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1 5

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1 5

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Asp Leu Glu Phe Arg Leu  
1 5

&lt;210&gt; 37

&lt;211&gt; 6

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&lt;213&gt; Artificial Sequence

&lt;220&gt;

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&lt;400&gt; 37

Asp Phe Glu Leu Arg Leu  
1 5

&lt;210&gt; 38

&lt;211&gt; 6

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&lt;400&gt; 38

Ser Leu Asp Leu His Leu  
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&lt;210&gt; 39

&lt;211&gt; 6

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&lt;400&gt; 39

Asp Leu Thr Leu Lys Leu  
1 5

&lt;210&gt; 40

&lt;211&gt; 6

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<210> 43  
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Leu Asp Leu Asp Leu Arg Leu  
1 5

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<210> 52

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<210> 53

<211> 9

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&lt;210&gt; 55

&lt;211&gt; 6

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

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&lt;400&gt; 55

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1 5

&lt;210&gt; 56

&lt;211&gt; 36

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

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36

&lt;210&gt; 57

&lt;211&gt; 36

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

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&lt;210&gt; 58

&lt;211&gt; 33

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&lt;213&gt; Artificial Sequence

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<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 64

gatctagaac tccgtttg

18

<210> 65

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 65

caaacggagt tctagatc

18

<210> 66

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 66

ctggatctac aactccgttt gggttattac

30

<210> 67

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 67

gtaataaccc aaacggagtt gtagatccag

30

<210> 68

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 68

ctggatctag aactccgttt g

21

<210> 69

<211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
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 <400> 69  
 caaacggagt tctagatcca g 21  
  
 <210> 70  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 70  
 ctggatctag aactcgctgc cgcagcggct gca 33  
  
 <210> 71  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 71  
 tgcagccgct gcggcagcga gttctagatc cag 33  
  
 <210> 72  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 72  
 ctggatctag aactccgttt ggctgccgca 30  
  
 <210> 73  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 73  
 tgcgcagacc aaacggagtt ctagatccag 30

<210> 74  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 74  
 ctggatctag aactccgttt gggt 24

<210> 75  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 75  
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<210> 76  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 76  
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<210> 77  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 77  
 aacacaatcc aacggtgcaa aattaagatc gaa 33

<210> 78  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 78



10574470.raw  
tttgacctca acatccctcc gatccctgaa ttc 33

<210> 79  
<211> 33  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 79  
gaattcaggg atcggaggga tgttgaggtc aaa 33

<210> 80  
<211> 39  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 80  
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<210> 81  
<211> 39  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 81  
aacacaatcc aacggtggaa aattaagatc gaattgaaa 39

<210> 82  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 82  
gatctagatc tccgtttg 18

<210> 83  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 83  
 caaacggaga tctagatc 18

<210> 84  
 <211> 105  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

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 agaggaattg atcttgatct taaccttgct ccacctatgg aattt 105

<210> 85  
 <211> 105  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 85  
 aaattccata ggtggagcaa ggттаagatc aagatcaatt cctcttttcc catcatattg 60  
 gttctcttcc actgcagagg acgagtccga cacagtagga cccac 105

<210> 86  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 86  
 gatctgatc tagaactccg tttgggtttc gct 33

<210> 87  
 <211> 33  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 87  
 agcgaaaccc aaacggagtt ctagatccag atc 33

<210> 88  
 <211> 36  
 <212> DNA  
 <213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 88

cttgatctgg atctagaact ccgtttgggt ttcgct

36

&lt;210&gt; 89

&lt;211&gt; 36

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 89

agcgaaaccc aaacggagtt ctagatccag atcaag

36

&lt;210&gt; 90

&lt;211&gt; 615

&lt;212&gt; DNA

&lt;213&gt; Arabidopsis thaliana

&lt;400&gt; 90

atggagagat	caaacagcat	agagttgagg	aacagcttct	atggccgtgc	aagaacttca	60
ccatggagct	atggagatta	tgataattgc	caacaggatc	atgattatct	tctagggttt	120
tcatggccac	caagatccta	cacttgcagc	ttctgcaaaa	gggaattcag	atcggctcaa	180
gcacttgggt	gccacatgaa	tgttcacaga	agagacagag	caagactcag	attacaacag	240
tctccatcat	catcttcaac	accttctcct	ccttacccta	accctaatta	ctcttactca	300
accatggcaa	actctcctcc	tcctcatcat	tctcctctaa	ccctatttcc	aaccctttct	360
cctccatcct	caccaagata	tagggcaggt	ttgatccgtt	ccttgagccc	caagtcaaaa	420
catacaccag	aaaacgcttg	taagactaag	aaatcatctc	ttttagtgga	ggctggagag	480
gctacaaggt	tcaccagtaa	agatgcttgc	aagatcctga	ggaatgatga	aatcatcagc	540
ttggagcttg	agattggttt	gattaacgaa	tcagagcaag	atctggatct	agaactccgt	600
ttgggtttcg	cttaa					615

&lt;210&gt; 91

&lt;211&gt; 93

&lt;212&gt; DNA

&lt;213&gt; Arabidopsis thaliana

&lt;400&gt; 91

aatgatgaaa	tcatcagctt	ggagcttgag	attggtttga	ttaacgaatc	agagcaagat	60
ctggatctag	aactccgttt	gggtttcgt	taa			93

&lt;210&gt; 92

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 92

gatctaaacc tccgtctg

18

<210> 93  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 93  
 cagacggagg tttagatc

18

<210> 94  
 <211> 18  
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 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 94  
 gatctagacc tccgtctg

18

<210> 95  
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 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 95  
 cagacggagg tctagatc

18

<210> 96  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 96  
 gatctacagc tccgtctg

18

<210> 97  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 97

cagacggagc tgtagatc

18

&lt;210&gt; 98

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 98

gatctacgac tccgtttg

18

&lt;210&gt; 99

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 99

caaacggagt cgtagatc

18

&lt;210&gt; 100

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 100

gagctagaac tccgtttg

18

&lt;210&gt; 101

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 101

caaacggagt tctagctc

18

&lt;210&gt; 102

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 102  
aacctagaac tccgtttg 18

<210> 103  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 103  
caaacggagt tctaggtt 18

<210> 104  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 104  
cagctagaac tccgtttg 18

<210> 105  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 105  
caaacggagt tctagctg 18

<210> 106  
<211> 18  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 106  
gatctagaac tcaacttg 18

<210> 107  
<211> 18  
<212> DNA  
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<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 107

caagttgagt tctagatc

18

<210> 108

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 108

gatctagaac tccagttg

18

<210> 109

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 109

caactggagt tctagatc

18

<210> 110

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 110

acgcttgaat taagactc

18

<210> 111

<211> 18

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 111

gagtcttaat tcaagcgt

18

<210> 112

<211> 18

<212> DNA

<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 112  
 gatcttgaat taacgctc 18  
  
 <210> 113  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 113  
 gagcgtaat tcaagatc 18  
  
 <210> 114  
 <211> 18  
 <212> DNA  
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 <220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 114  
 agccttgaat taagactc 18  
  
 <210> 115  
 <211> 18  
 <212> DNA  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence  
  
 <400> 115  
 gagtcttaat tcaaggct 18  
  
 <210> 116  
 <211> 18  
 <212> DNA  
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 <220>  
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 Synthesized DNA Sequence  
  
 <400> 116  
 gatcttgaat taagcctc 18  
  
 <210> 117  
 <211> 18



<212> DNA  
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<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 117  
 gaggcttaat tcaagatc 18

<210> 118  
 <211> 18  
 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 118  
 gatcttacct taagactc 18

<210> 119  
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 <212> DNA  
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<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 119  
 gagtcttaag gtaagatc 18

<210> 120  
 <211> 18  
 <212> DNA  
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 Synthesized DNA Sequence

<400> 120  
 gatcttagct taagactc 18

<210> 121  
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 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 121  
 gagtcttaag ctaagatc 18

<210> 122  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 122  
 gatcttcact taagactc

18

<210> 123  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 123  
 gagtcttaag tgaagatc

18

<210> 124  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 124  
 gatctcgaat ttcgtctc

18

<210> 125  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 125  
 gagacgaaat tcgagatc

18

<210> 126  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 126  
 gatttcgaac tacgtctc

18

<210> 127  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 127  
 gagacgtagt tcgaaatc

18

<210> 128  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 128  
 tcgcttgatc tacacctg

18

<210> 129  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 129  
 caggtgtaga tcaagcga

18

<210> 130  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 130  
 gatcttacgc taaagctg

18

<210> 131  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 131  
cagctttagc gtaagatc

18

<210> 132  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 132  
gatccttagcc taaagctg

18

<210> 133  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 133  
cagctttagg ctaagatc

18

<210> 134  
<211> 232  
<212> PRT  
<213> Arabidopsis thaliana

<400> 134  
Met Ala Arg Gly Lys Ile Gln Ile Lys Arg Ile Glu Asn Gln Thr Asn  
1 5 10 15  
Arg Gln Val Thr Tyr Ser Lys Arg Arg Asn Gly Leu Phe Lys Lys Ala  
20 25 30  
His Glu Leu Thr Val Leu Cys Asp Ala Arg Val Ser Ile Ile Met Phe  
35 40 45  
Ser Ser Ser Asn Lys Leu His Glu Tyr Ile Ser Pro Asn Thr Thr Thr  
50 55 60  
Lys Glu Ile Val Asp Leu Tyr Gln Thr Ile Ser Asp Val Asp Val Trp  
65 70 75 80  
Ala Thr Gln Tyr Glu Arg Met Gln Glu Thr Lys Arg Lys Leu Leu Glu  
85 90 95  
Thr Asn Arg Asn Leu Arg Thr Gln Ile Lys Gln Arg Leu Gly Glu Cys  
100 105 110  
Leu Asp Glu Leu Asp Ile Gln Glu Leu Arg Arg Leu Glu Asp Glu Met  
115 120 125  
Glu Asn Thr Phe Lys Leu Val Arg Glu Arg Lys Phe Lys Ser Leu Gly  
130 135 140  
Asn Gln Ile Glu Thr Thr Lys Lys Lys Asn Lys Ser Gln Gln Asp Ile  
145 150 155 160  
Gln Lys Asn Leu Ile His Glu Leu Glu Leu Arg Ala Glu Asp Pro His  
165 170 175  
Tyr Gly Leu Val Asp Asn Gly Gly Asp Tyr Asp Ser Val Leu Gly Tyr  
180 185 190  
Gln Ile Glu Gly Ser Arg Ala Tyr Ala Leu Arg Phe His Gln Asn His  
195 200 205  
His His Tyr Tyr Pro Asn His Gly Leu His Ala Pro Ser Ala Ser Asp

210  
Ile Ile Thr Phe His Leu Leu Glu  
225 230

220

<210> 135  
<211> 699  
<212> DNA  
<213> Arabidopsis thaliana

<400> 135  
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tattcaaaga gaagaaatgg tttattcaag aaagcacatg agctcacggt tttgtgtgat 120  
gctagggttt cgattatcat gttctctagc tccaacaagc ttcattgagta tatcagccct 180  
aacaccacaa cgaaggagat cgtagatctg taccaaacta tttctgatgt cgatgtttgg 240  
gccactcaat atgagcgaat gcaagaaacc aagaggaaac tgttgagac aaatagaaat 300  
ctccggactc agatcaagca gaggctaggt gagtgtttgg acgagcttga cattcaggag 360  
ctgcgtcgtc ttgaggatga aatggaaaac actttcaaac tcgttcgcga gcgcaagttc 420  
aaatctcttg ggaatcagat cgagaccacc aagaaaaaga acaaaagtca acaagacata 480  
caaaagaatc tcatacatga gctggaacta agagctgaag atcctcacta tggactagta 540  
gacaatggag gagattacga ctgagttctt ggataccaaa tcgaagggtc acgtgcttac 600  
gctcttcgtt tccaccagaa ccatcaccac tattacccca accatggcct tcatgcaccc 660  
tctgcctctg acatcattac cttccatctt cttgaataa 699

<210> 136  
<211> 365  
<212> PRT  
<213> Arabidopsis thaliana

<400> 136  
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1 5 10 15  
Pro Pro Gly Phe Arg Phe His Pro Thr Glu Glu Glu Leu Leu Gln Tyr  
20 25 30  
Tyr Leu Arg Lys Lys Val Asn Ser Ile Glu Ile Asp Leu Asp Val Ile  
35 40 45  
Arg Asp Val Asp Leu Asn Lys Leu Glu Pro Trp Asp Ile Gln Glu Met  
50 55 60  
Cys Lys Ile Gly Thr Thr Pro Gln Asn Asp Trp Tyr Phe Phe Ser His  
65 70 75 80  
Lys Asp Lys Lys Tyr Pro Thr Gly Thr Arg Thr Asn Arg Ala Thr Ala  
85 90 95  
Ala Gly Phe Trp Lys Ala Thr Gly Arg Asp Lys Ile Ile Tyr Ser Asn  
100 105 110  
Gly Arg Arg Ile Gly Met Arg Lys Thr Leu Val Phe Tyr Lys Gly Arg  
115 120 125  
Ala Pro His Gly Gln Lys Ser Asp Trp Ile Met His Glu Tyr Arg Leu  
130 135 140  
Asp Asp Asn Ile Ile Ser Pro Glu Asp Val Thr Val His Glu Val Val  
145 150 155 160  
Ser Ile Ile Gly Glu Ala Ser Gln Asp Glu Gly Trp Val Val Cys Arg  
165 170 175

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Ile Phe Lys Lys Lys Asn Leu His Lys Thr Leu Asn Ser Pro Val Gly  
180 185 190  
Gly Ala Ser Leu Ser Gly Gly Gly Asp Thr Pro Lys Thr Thr Ser Ser  
195 200 205  
Gln Ile Phe Asn Glu Asp Thr Leu Asp Gln Phe Leu Glu Leu Met Gly  
210 215 220  
Arg Ser Cys Lys Glu Glu Leu Asn Leu Asp Pro Phe Met Lys Leu Pro  
225 230 235 240  
Asn Leu Glu Ser Pro Asn Ser Gln Ala Ile Asn Asn Cys His Val Ser  
245 250 255  
Ser Pro Asp Thr Asn His Asn Ile His Val Ser Asn Val Val Asp Thr  
260 265 270  
Ser Phe Val Thr Ser Trp Ala Ala Leu Asp Arg Leu Val Ala Ser Gln  
275 280 285  
Leu Asn Gly Pro Thr Ser Tyr Ser Ile Thr Ala Val Asn Glu Ser His  
290 295 300  
Val Gly His Asp His Leu Ala Leu Pro Ser Val Arg Ser Pro Tyr Pro  
305 310 315 320  
Ser Leu Asn Arg Ser Ala Ser Tyr His Ala Gly Leu Thr Gln Glu Tyr  
325 330 335  
Thr Pro Glu Met Glu Leu Trp Asn Thr Thr Thr Ser Ser Leu Ser Ser  
340 345 350  
Ser Pro Gly Pro Phe Cys His Val Ser Asn Gly Ser Gly  
355 360 365

<210> 137  
<211> 1098  
<212> DNA  
<213> Arabidopsis thaliana

<400> 137  
atgatgtcaa aatctatgag catatcagtg aacggacaat ctcaagtgcc tcctggggtt 60  
aggtttcatc cgaccgagga agagctgttg cagtattatc tccggaagaa agttaatagc 120  
atcgagatcg atcttgatgt cattcgcgac gttgatctca acaagctcga gccttgggac 180  
attcaagaga tgtgtaaaat aggaacaacg ccacaaaacg actggtatct ctttagccac 240  
aaggacaaaa aatatccgac gggaacgaga actaacagag ccactgcggc tggatttttg 300  
aaagcaactg gccgcgacaa gatcatatat agcaatggcc gtagaatttg gatgagaaag 360  
actcttggtt tctacaaagg ccgagctcct cacggccaaa aatctgattg gatcatgcat 420  
gaatatagac tcgatgacaa cattatttcc cccgaggatg tcaccgttca tgaggtcgtg 480  
agtattatag ggggaagcatc acaagacgaa ggatgggttg tgtgtcgtat tttcaagaag 540  
aagaatcttc acaaaaccct aaacagtccc gtcggaggag cttccctgag cggcggcgga 600  
gatacgccga agacgacatc atctcagatc ttcaacgagg atactctcga ccaatttctt 660  
gaacttatgg ggagatcttg taaagaagag ctaaactctg accctttcat gaaactccca 720  
aacctcgaaa gccctaacag tcaggcaatc aacaactgcc acgtaagctc tcccgaact 780  
aatcataata tccacgtcag caacgtggtc gacactagct ttgttactag ctgggcggct 840  
ttagaccgcc tcgtggcctc gcagcttaac ggaccacat catattcaat tacagccgtc 900  
aatgagagcc acgtgggcca tgatcatctc gctttgcctt ccgtccgac tccgtacccc 960  
agcctaaacc ggtccgcttc gtaccacgcc ggtttaacac aggaatatac accggagatg 1020  
gagctatgga atacgacgac gtcgtctcta tcgtcatcgc ctggcccatt ttgtcacgtg 1080  
tcgaatggta gtggataa 1098

<210> 138  
 <211> 367  
 <212> PRT  
 <213> Arabidopsis thaliana

<400> 138  
 Met Gly His His Ser Cys Cys Asn Lys Gln Lys Val Lys Arg Gly Leu  
   1                          5                          10                          15  
 Trp Ser Pro Glu Glu Asp Glu Lys Leu Ile Asn Tyr Ile Asn Ser Tyr  
                   20                          25                          30  
 Gly His Gly Cys Trp Ser Ser Val Pro Lys His Ala Gly Thr Tyr Thr  
                   35                          40                          45  
 His Ile His Gly Phe Cys Leu Gln Arg Cys Gly Lys Ser Cys Arg Leu  
           50                          55                          60  
 Arg Trp Ile Asn Tyr Leu Arg Pro Asp Leu Lys Arg Gly Ser Phe Ser  
   65                          70                          75                          80  
 Pro Gln Glu Ala Ala Leu Ile Ile Glu Leu His Ser Ile Leu Gly Asn  
                           85                          90                          95  
 Arg Trp Ala Gln Ile Ala Lys His Leu Pro Gly Arg Thr Asp Asn Glu  
                   100                          105                          110  
 Val Lys Asn Phe Trp Asn Ser Ser Ile Lys Lys Lys Leu Met Ser His  
           115                          120                          125  
 His His His Gly His His His His His Leu Ser Ser Met Ala Ser Leu  
   130                          135                          140  
 Leu Thr Asn Leu Pro Tyr His Asn Gly Phe Asn Pro Thr Thr Val Asp  
  145                          150                          155                          160  
 Asp Glu Ser Ser Arg Phe Met Ser Asn Ile Ile Thr Asn Thr Asn Pro  
                   165                          170                          175  
 Asn Phe Ile Thr Pro Ser His Leu Ser Leu Pro Ser Pro His Val Met  
           180                          185                          190  
 Thr Pro Leu Met Phe Pro Thr Ser Arg Glu Gly Asp Phe Lys Phe Leu  
           195                          200                          205  
 Thr Thr Asn Asn Pro Asn Gln Ser His His His Asp Asn Asn His Tyr  
   210                          215                          220  
 Asn Asn Leu Asp Ile Leu Ser Pro Thr Pro Thr Ile Asn Asn His His  
  225                          230                          235                          240  
 Gln Pro Ser Leu Ser Ser Cys Pro His Asp Asn Asn Leu Gln Trp Pro  
                   245                          250                          255  
 Ala Leu Pro Asp Phe Pro Ala Ser Thr Ile Ser Gly Phe Gln Glu Thr  
                   260                          265                          270  
 Leu Gln Asp Tyr Asp Asp Ala Asn Lys Leu Asn Val Phe Val Thr Pro  
           275                          280                          285  
 Phe Asn Asp Asn Ala Lys Lys Leu Leu Cys Gly Glu Val Leu Glu Gly

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300

290

295

Lys Val Leu Ser Ser Ser Ser Pro Ile Ser Gln Asp His Gly Leu Phe  
305 310 315 320  
Leu Pro Thr Thr Tyr Asn Phe Gln Met Thr Ser Thr Ser Asp His Gln  
325 330 335  
His His His Arg Val Asp Ser Tyr Ile Asn His Met Ile Ile Pro Ser  
340 345 350  
Ser Ser Ser Ser Ser Pro Ile Ser Cys Gly Gln Tyr Val Ile Thr  
355 360 365

<210> 139

<211> 1104

<212> DNA

<213> Arabidopsis thaliana

<400> 139

atgggtcatc actcatgctg caacaagcaa aaggtgaaga gagggctttg gtcacctgaa 60  
gaagacgaaa agctcatcaa ctacatcaat tcatatggcc atggatgttg gagctctgtt 120  
cctaaacatg caggcactta tacacatata catgggtttt gtttgagag atgtggaaaag 180  
agttgtagat taagatggat aaattatcta agacctgac ttaaactgtg aagcttctct 240  
cctcaagaag ctgctcttat cattgagctt cacagcattc ttggtaacag atgggctcaa 300  
attgctaacc atctacctgg aagaacagat aacgaggtca agaatttctg gaactcgagc 360  
attaaaaaga agctcatgtc tcaccatcat cacggtcatc atcatcatca tctctcttcc 420  
atggcgagtt tgctcacaaa ctttccttat cacaatggat tcaaccctac tacagtcgac 480  
gatgaaagtt caagattcat gtccaatatc atcacaacaa ctaaccctaa tttcatcact 540  
ccaagccatc tctctcttcc ttctcctcat gttatgacct cattgatgtt cccaacctct 600  
agagaaggag atttcaagtt tctaaccaca aacaacccaa accaatctca tcaccatgat 660  
aataaccatt acaacaacct cgacattttg tcacccacac caactataaa caatcatcat 720  
caaccttcac tttcttcttg tcctcatgat aataatctcc aatggccagc gttaccagat 780  
ttcccagcga gtaccatttc tggtttccaa gaaacccttc aagattatga tgatgctaatt 840  
aaactcaacg tgtttgtgac accattcaac gataatgccaaaagttatt atgtggagaa 900  
gttctcgaag gcaaagtact atcttctctc tcaccaattt cacaagatca cggccttttt 960  
cttcccacca cgtacaactt tcaaagtact tctacgagtg atcatcaaca tcatcatcga 1020  
gtggactcat acatcaatca catgatcata ccatcatcat cctcatcgtc gccaatctct 1080  
tgtggacagt acgtcataac ttaa 1104

<210> 140

<211> 253

<212> PRT

<213> Arabidopsis thaliana

<400> 140

Met Thr Ala Tyr Gln Ser Glu Leu Gly Gly Asp Ser Ser Pro Leu Arg  
1 5 10 15  
Lys Ser Gly Arg Gly Lys Ile Glu Ile Lys Arg Ile Glu Asn Thr Thr  
20 25 30  
Asn Arg Gln Val Thr Phe Cys Lys Arg Arg Asn Gly Leu Leu Lys Lys  
35 40 45  
Ala Tyr Glu Leu Ser Val Leu Cys Asp Ala Glu Val Ala Leu Ile Val  
50 55 60  
Phe Ser Ser Arg Gly Arg Leu Tyr Glu Tyr Ser Asn Asn Ser Val Lys  
65 70 75 80



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Gly Thr Ile Glu Arg Tyr Lys Lys Ala Ile Ser Asp Asn Ser Asn Thr  
85 90  
Gly Ser Val Ala Glu Ile Asn Ala Gln Tyr Tyr Gln Gln Glu Ser Ala  
100 105 110  
Lys Leu Arg Gln Gln Ile Ile Ser Ile Gln Asn Ser Asn Arg Gln Leu  
115 120 125  
Met Gly Glu Thr Ile Gly Ser Met Ser Pro Lys Glu Leu Arg Asn Leu  
130 135 140  
Glu Gly Arg Leu Glu Arg Ser Ile Thr Arg Ile Arg Ser Lys Lys Asn  
145 150 155 160  
Glu Leu Leu Phe Ser Glu Ile Asp Tyr Met Gln Lys Arg Glu Val Asp  
165 170 175  
Leu His Asn Asp Asn Gln Ile Leu Arg Ala Lys Ile Ala Glu Asn Glu  
180 185 190  
Arg Asn Asn Pro Ser Ile Ser Leu Met Pro Gly Gly Ser Asn Tyr Glu  
195 200 205  
Gln Leu Met Pro Pro Pro Gln Thr Gln Ser Gln Pro Phe Asp Ser Arg  
210 215 220  
Asn Tyr Phe Gln Val Ala Ala Leu Gln Pro Asn Asn His His Tyr Ser  
225 230 235 240  
Ser Ala Gly Arg Gln Asp Gln Thr Ala Leu Gln Leu Val  
245 250

<210> 141  
<211> 762  
<212> DNA  
<213> Arabidopsis thaliana

<400> 141  
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ggaaagatcg aaatcaaacg gatcgagaac acaacgaatc gtcaagtcac tttttgcaaa 120  
cgtagaaatg gtttgctcaa gaaagcttac gagctctctg ttctttgtga tgctgaagtc 180  
gcactcatcg tcttctctag ccgtggtcgt ctctatgagt actctaaca cagtgtaaaa 240  
gggactattg agaggtacaa gaaggcaata tcggacaatt ctaacaccgg atcggtggca 300  
gaaattaatg cacagtatta tcaacaagaa tcagccaaat tgcgtcaaca aataatcagc 360  
atacaaaaact ccaacaggca attgatgggt gagacgatag ggtcaatgtc tcccaaagag 420  
ctcaggaact tggaaggcag attagagaga agtattacc gaatccgatc caagaagaat 480  
gagctcttat tttctgaaat cgactacatg cagaaaagag aagttgattt gcataacgat 540  
aaccagattc ttcgtgcaaa gatagctgaa atgagagga acaatccgag tataagtcta 600  
atgccaggag gatctaacta cgagcagctt atgccaccac ctcaaacgca atctcaaccg 660  
tttgattcac ggaattatct ccaagtcgag gcattgcaac ctaacaatca ccattactca 720  
tccgcgggtc gccaaagacca aaccgctctc cagtttagtg aa 762

<210> 142  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 142  
agttagttac ttaagcttgg gcccc 25

<210> 143  
<211> 30  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 143  
gatccagtaa gcttaattgg ttccggcgcc 30

<210> 144  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 144  
tagaattcgc ggccgcactc gag 23

<210> 145  
<211> 31  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

<400> 145  
gagaattcgg gccagagctg cagctggatg g 31

<210> 146  
<211> 82  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 146  
ctagaggatc cacaattacc aacaacaaca aacaacaaac aacattacaa ttacagatcc 60  
cgggggtacc gtcgacgagc tc 82

<210> 147  
<211> 73  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 147

cgtcgacggt acccccggga tctgtaattg taatgttggt tggtgtttgt tggtgttggt 60  
aattgtggat cct 73

&lt;210&gt; 148

&lt;211&gt; 43

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 148

gggcttgatc tggatctaga actccgtttg ggtttcgctt aag 43

&lt;210&gt; 149

&lt;211&gt; 47

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

&lt;400&gt; 149

tcgacttaag cgaaacccaa acggagttct agatccagat caagccc 47

&lt;210&gt; 150

&lt;211&gt; 29

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

&lt;400&gt; 150

atgaccgcgt accaatcgga gctaggagg 29

&lt;210&gt; 151

&lt;211&gt; 30

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence:Artificially  
Synthesized Primer Sequence

&lt;400&gt; 151

cactaactgg agagcggttt ggtcttggcg 30

&lt;210&gt; 152

&lt;211&gt; 6

<212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Amino Acid Sequence

<400> 152  
 Asp Leu Ser Leu Asp Leu  
 1 5

<210> 153  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 153  
 gatcttagcc taagcctg 18

<210> 154  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 154  
 caggcttagg ctaagatc 18

<210> 155  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 155  
 gatgatgtca aaatctatga gcatatc 27

<210> 156  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 156  
 tccactacca ttcgacacgt gac 23

<210> 157  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 157  
 gatgggtcat cactcatgct gcaacaagca 30

<210> 158  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized Primer Sequence

<400> 158  
 agttatgacg tactgtccac aagagattgg 30

<210> 159  
 <211> 75  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 159  
 gatccacaat taccaacaac aacaaacaac aaacaacatt acaattacag atccccggggg 60  
 taccgtcgac gagct 75

<210> 160  
 <211> 67  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 160  
 cgtcgacggt acccccggga tctgtaattg taatgttggt tggtgtttgt tggtgttggt 60  
 aattgtg 67

<210> 161  
 <211> 28  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence:Artificially  
 Synthesized DNA Sequence

<400> 161  
gatggcgaga gggaagatcc agatcaag 28

<210> 162  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 162  
ttcaagaaga tggaaggtaa tgatg 25

<210> 163  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 163  
ctggatctgg atctagaact ccgtttgggt ttcgcttaag 40

<210> 164  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Artificially  
Synthesized DNA Sequence

<400> 164  
cttaagcgaa acccaaacgg agttctagat ccagatccag 40